White Sands Missile Range

Data Review

Otero County, New Mexico

Volatile Organics

SDGs # 9082608, 9090808
Analyses Performed By:
Trace Analysis, Inc.
Lubbock, Texas

Report #10902R
Review Level: Tier II
Project: GP08WSMR00SW OC009

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDGs) 9082608 and 9090808 for samples collected in association with the White Sands Water Monitoring Site, Otero County, New Mexico. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
						VOC	SVOC	HERB /PEST	MET	MISC
9082608	HLSF-0143-HMW-041-0809	207800	Water	08/24/2009		X				
	HLSF-3839-HMW-029-0809	207801	Water	08/20/2009		X				
	HLSF-3839-HMW-033-0809	207802	Water	08/20/2009		X				
	HLSF-3839-HMW-133-0809	207803	Water	08/20/2009		X				
	HLSF-3839-HMW-032-0809	207804	Water	08/21/2009		X				
	HLSF-0143-HMW-039-0809	207805	Water	08/24/2009		X				
	HLSF-3839-HMW-035-0809	207806	Water	08/19/2009		X				
	HLSF-3839-HMW-034-0809	207807	Water	08/19/2009		X				
	HLSF-3839-TB-09-000	207808	Water	08/24/2009		X				
9090808	HLSF-0154-DRW-016-0909	209311	Water	09/01/2009		X				
	HLSF-0154-HCF-001-0909	209312	Water	09/02/2009		X				
	HLSF-0154-DRW-005-0909	209313	Water	09/01/2009		X				
	HLSF-0143-HMW-013-0909	209314	Water	09/01/2009		X				
	HLSF-0143-HMW-036-0909	209315	Water	09/01/2009						
	HLSF-0154-DRW-016-0909	209316	Water	09/01/2009	MS/MSD	X				
	HLSF-0154-DRW-004-0909	209317	Water	09/02/2009		X				
	HLSF-0154-TB-09-0002	209318	Water	09/02/2009		X				

Note: Sample HLSF-0154-DRW-016-0909 was utilized as the Matrix Spike/Matrix Spike Duplicate (MS/MSD).

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260B. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999/January 2005.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cooled @ 4 °C.

s.u. Standard units

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
HLSF-0143-HMW-041-0809	2-Butanone	Detected sample results >RL and <BAL	"UB" at detected sample concentration
HLSF-0154-DRW-005-0909	Acetone 1,2,4- Trimethylbenzene		
HLSF-0143-HMW-036-0909	Acetone		
HLSF-0154-DRW-016-0909	n-Butylbenzene		
HLSF-0154-DRW-004-0909	Acetone 2-Butanone		

RL Reporting limit

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
HLSF-0154-DRW-016-0909	Bromomethane	>UL	>UL
	Acetone	<LL but >10%	<LL but >10%
	Trans 1,4-Dichloro-2-butene	<LL but >10%	<LL but >10%
	Trichloroethene	<LL but >10%	AC
	2-Chloroethyl vinyl ether	< 10%	< 10%
	Tetrachloroethene	<LL but >10%	<LL but >10%

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Detect	No Action
	Non-detect	

5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	LCS Recovery	LCSD Recovery
SDG: 9082608 HLSF-0143-HMW-041-0809 HLSF-3839-HMW-029-0809 HLSF-3839-HMW-033-0809 HLSF-3839-HMW-133-0809 HLSF-3839-HMW-032-0809 HLSF-0143-HMW-039-0809 HLSF-3839-HMW-035-0809 HLSF-3839-HMW-034-0809 HLSF-3839-TB-09-000	1,2-Dichloroethane	< LL but > 10% < LL but > 10% < LL but > 10% < LL but > 10% < LL but > 10% < LL but > 10%	< LL but > 10%
	1,1,1-Trichloroethane		
	Carbon Tetrachloride		
	1,1,1,2-Tetrachloroethane		
	Bromoform		
	1,4-Dichlorobenzene		
	Dibromomethane	AC	< LL but > 10%
SDG: 9090808 HLSF-0154-DRW-016-0909 HLSF-0154-HCF-001-0909 HLSF-0154-DRW-005-0909 HLSF-0143-HMW-013-0909 HLSF-0143-HMW-036-0909 HLSF-0154-DRW-016-0909 HLSF-0154-DRW-004-0909 HLSF-0154-TB-09-0002	Acetone	< LL but > 10%	AC
	Terachloroethene	< LL but > 10%	AC

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Note: Sample results were not qualified as rejected (R) due to the deviations listed above.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

A field duplicate was not collected with a sample location associated with this SDG.

7. Compound Identification

Compounds are identified on the GC/MS by laboratory personnel using the analytes relative retention time and ion spectra.

8. System Performance and Overall Assessment

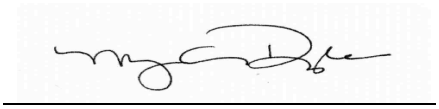
Overall system performance was noted by the laboratory in the case narrative as acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks					X
C. Trip blanks		X	X	X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate(LCSD)		X	X		
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)					X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X

%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

VALIDATION PERFORMED BY: Mary Ann Doyle

SIGNATURE: 

DATE: October 15, 2009

PEER REVIEW: Dennis Capria

DATE: October 19, 2009

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS

Analytical Report

Sample: 207800 - HLSF-0143-HMW-041-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[1] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	[2] U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	UB [2]	**0.880**	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	[4] U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene		**3.79**	**3.79**	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	J	**0.890**	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	[5] U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform		**1.14**	**1.14**	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	[6] U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	[7] U J	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)		**118**	**118**	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	[8] U J	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47

continued . . .

[1] Concentration biased low.
[2] Concentration biased low.
[3] Concentration biased high.
[4] Concentration biased low.
[5] Concentration biased low.
[6] Concentration biased low.
[7] Concentration biased low.
[8] Concentration biased low.

sample 207800 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	J	0.400	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	U J	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

[9]Concentration biased low.
[10]Concentration biased low.
[11]Concentration biased low.
[12]Concentration biased low.
[13]Concentration biased low.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.8	µg/L	1	50.0	100	75.3 - 131
Toluene-d8		54.1	µg/L	1	50.0	108	91.4 - 112
4-Bromofluorobenzene (4-BFB)		50.1	µg/L	1	50.0	100	83.8 - 108

Sample: 207801 - HLSF-3839-HMW-029-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[14] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	[15] U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	[16] U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	[17] U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	[18] U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	[19] U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24

continued ...

[14] Concentration biased low.
[15] Concentration biased low.
[16] Concentration biased high.
[17] Concentration biased low.
[18] Concentration biased low.
[19] Concentration biased low.

sample 207801 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Carbon Tetrachloride	[20] UJ	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	[21] UJ	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	[22] U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	[23] U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	[24] UJ	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	[25] UJ	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	[26] U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33

continued ...

[20] Concentration biased low.
[21] Concentration biased low.
[22] Concentration biased low.
[23] Concentration biased low.
[24] Concentration biased low.
[25] Concentration biased low.
[26] Concentration biased low.

sample 207801 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.0	µg/L	1	50.0	100	75.3 - 131
Toluene-d8		52.5	µg/L	1	50.0	105	91.4 - 112
4-Bromofluorobenzene (4-BFB)		49.2	µg/L	1	50.0	98	83.8 - 108

Sample: 207802 - HLSF-3839-HMW-033-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[27] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	[28] U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	[29] U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	[30] U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene		**4.15**	**4.15**	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29

continued ...

[27] Concentration biased low.
[28] Concentration biased low.
[29] Concentration biased high.
[30] Concentration biased low.

sample 207802 continued . . .

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	[31] U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform		**1.36**	**1.36**	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	[32] U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	[33] U J	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)		**4.75**	**4.75**	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	[34] U J	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	[35] J	**0.430**	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	[36] U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	[37] U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	[38] U J	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24

continued . . .

[31] Concentration biased low.
[32] Concentration biased low.
[33] Concentration biased low.
[34] Concentration biased low.
[35] Concentration biased low.
[36] Concentration biased low.
[37] Concentration biased low.
[38] Concentration biased low.

sample 207802 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	[39] U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.2	µg/L	1	50.0	98	75.3 - 131
Toluene-d8		52.8	µg/L	1	50.0	106	91.4 - 112
4-Bromofluorobenzene (4-BFB)		48.9	µg/L	1	50.0	98	83.8 - 108

Sample: 207803 - HLSF-3839-HMW-133-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[40] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	[41] U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	[42] U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81

continued ...

[39] Concentration biased low.
[40] Concentration biased low.
[41] Concentration biased low.
[42] Concentration biased high.

sample 207803 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	[43] U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene	J	**4.26**	**4.26**	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	[44] U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform		**1.35**	**1.35**	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	[45] U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	[46] U J	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)		**4.85**	**4.85**	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	[47] U J	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	[48] U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	[49] U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	[50] U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24

continued ...

[43] Concentration biased low.
[44] Concentration biased low.
[45] Concentration biased low.
[46] Concentration biased low.
[47] Concentration biased low.
[48] Concentration biased low.
[49] Concentration biased low.
[50] Concentration biased low.

sample 207803 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	[51] U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	[52] U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.5	µg/L	1	50.0	103	75.3 - 131
Toluene-d8		52.9	µg/L	1	50.0	106	91.4 - 112
4-Bromofluorobenzene (4-BFB)		49.2	µg/L	1	50.0	98	83.8 - 108

Sample: 207804 - HLSF-3839-HMW-032-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[53] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75

continued ...

[51] Concentration biased low.
[52] Concentration biased low.
[53] Concentration biased low.

sample 207804 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	54 U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	55 U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	56 U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	57 U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	58 U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	59 U J	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	60 U J	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	61 U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26

continued ...

[54] Concentration biased low.
[55] Concentration biased high.
[56] Concentration biased low.
[57] Concentration biased low.
[58] Concentration biased low.
[59] Concentration biased low.
[60] Concentration biased low.
[61] Concentration biased low.

sample 207804 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,1,1,2-Tetrachloroethane	62 U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	63 U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	64 U J	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	65 U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.4	µg/L	1	50.0	103	75.3 - 131
Toluene-d8		52.6	µg/L	1	50.0	105	91.4 - 112
4-Bromofluorobenzene (4-BFB)		49.8	µg/L	1	50.0	100	83.8 - 108

Sample: 207805 - HLSF-0143-HMW-039-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

[62] Concentration biased low.
[63] Concentration biased low.
[64] Concentration biased low.
[65] Concentration biased low.

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	66 U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	67 U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	68 U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	69 U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene		**1.53**	**1.53**	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	70 U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform	J	**0.440**	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	71 U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	72 U J	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)		**44.0**	**44.0**	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	73 U J	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34

continued . . .

[66] Concentration biased low.
[67] Concentration biased low.
[68] Concentration biased high.
[69] Concentration biased low.
[70] Concentration biased low.
[71] Concentration biased low.
[72] Concentration biased low.
[73] Concentration biased low.

sample 207805 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Tetrachloroethene (PCE)	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	U J	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.3	µg/L	1	50.0	101	75.3 - 131
Toluene-d8		52.4	µg/L	1	50.0	105	91.4 - 112
4-Bromofluorobenzene (4-BFB)		49.7	µg/L	1	50.0	99	83.8 - 108

Sample: 207806 - HLSF-3839-HMW-035-0809

Laboratory: Lubbock
Analysis: Volatiles Analytical Method: S 8260B Prep Method: S 5030B

[74]Concentration biased low.
[75]Concentration biased low.
[76]Concentration biased low.
[77]Concentration biased low.
[78]Concentration biased low.

QC Batch: 62999 Date Analyzed: 2009-08-27 Analyzed By: KB
Prep Batch: 53764 Sample Preparation: 2009-08-27 Prepared By: KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[79] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	[80] U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	[81] U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	[82] U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	[83] UJ	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	[84] UJ	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	[85] UJ	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	[86] UJ	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28

continued . . .

[79]Concentration biased low.
[80]Concentration biased low.
[81]Concentration biased high.
[82]Concentration biased low.
[83]Concentration biased low.
[84]Concentration biased low.
[85]Concentration biased low.
[86]Concentration biased low.

sample 207806 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	[87] U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	[88] U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	[89] UJ	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	[90] UJ	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	[91] U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.5	µg/L	1	50.0	103	75.3 - 131
Toluene-d8		52.4	µg/L	1	50.0	105	91.4 - 112
4-Bromofluorobenzene (4-BFB)		50.4	µg/L	1	50.0	101	83.8 - 108

[87] Concentration biased low.
[88] Concentration biased low.
[89] Concentration biased low.
[90] Concentration biased low.
[91] Concentration biased low.

Sample: 207807 - HLSF-3839-HMW-034-0809

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	U	<1.75	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	92 U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	98 U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	U	<0.450	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	94 U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	95 U J	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	96 U J	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
Carbon Tetrachloride	97 U J	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	98 U J	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	99 U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33

continued ...

[92]Concentration biased high.
[93]Concentration biased high.
[94]Concentration biased low.
[95]Concentration biased low.
[96]Concentration biased low.
[97]Concentration biased low.
[98]Concentration biased low.
[99]Concentration biased high.

sample 207807 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
cis-1,3-Dichloropropene	[100] U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	[101] U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	[102] U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	[103] UJ	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	[104] UJ	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.9	µg/L	1	50.0	108	75.3 - 131
Toluene-d8		52.7	µg/L	1	50.0	105	91.4 - 112

continued ...

[100] Concentration biased high.
[101] Concentration biased high.
[102] Concentration biased low.
[103] Concentration biased low.
[104] Concentration biased low.

sample continued . . .

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		51.4	µg/L	1	50.0	103	83.8 - 108

Sample: 207808 - HLSF-3839-TB-09-000

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	62999	Date Analyzed:	2009-08-27	Analyzed By:	KB
Prep Batch:	53764	Sample Preparation:	2009-08-27	Prepared By:	KB

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.370	<1.00	<0.370	µg/L	1	0.370	1	0.37
Dichlorodifluoromethane	[106] U	<0.450	<1.00	<0.450	µg/L	1	0.450	1	0.45
Chloromethane (methyl chloride)	U	<0.590	<1.00	<0.590	µg/L	1	0.590	1	0.59
Vinyl Chloride	U	<0.690	<1.00	<0.690	µg/L	1	0.690	1	0.69
Bromomethane (methyl bromide)	U	<0.750	<5.00	<0.750	µg/L	1	0.750	5	0.75
Chloroethane	U	<0.570	<1.00	<0.570	µg/L	1	0.570	1	0.57
Trichlorofluoromethane	[106] U	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Acetone	JB	**3.08**	<10.0	8.53	µg/L	1	1.75	10	1.75
Iodomethane (methyl iodide)	U	<0.320	<5.00	<0.320	µg/L	1	0.320	5	0.32
Carbon Disulfide	U	<0.250	<1.00	<0.250	µg/L	1	0.250	1	0.25
Acrylonitrile	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
2-Butanone (MEK)	[107] U	<0.810	<5.00	11.3	µg/L	1	0.810	5	0.81
4-Methyl-2-pentanone (MIBK)	U	<0.790	<5.00	<0.790	µg/L	1	0.790	5	0.79
2-Hexanone	U	<0.510	<5.00	<0.510	µg/L	1	0.510	5	0.51
trans 1,4-Dichloro-2-butene	[108] U	<0.490	<10.0	<0.490	µg/L	1	0.490	10	0.49
1,1-Dichloroethene	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
Methylene chloride	J	**1.92**	<5.00	<0.450	µg/L	1	0.450	5	0.45
MTBE	U	<0.400	<1.00	<0.400	µg/L	1	0.400	1	0.4
trans-1,2-Dichloroethene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
1,1-Dichloroethane	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
cis-1,2-Dichloroethene	U	<0.200	<1.00	<0.200	µg/L	1	0.200	1	0.2
2,2-Dichloropropane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
1,2-Dichloroethane (EDC)	[109] UJ	<0.350	<1.00	<0.350	µg/L	1	0.350	1	0.35
Chloroform	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,1-Trichloroethane	[110] UJ	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
1,1-Dichloropropene	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Benzene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24

continued . . .

[105] Concentration biased low.
[106] Concentration biased low.
[107] Concentration biased high.
[108] Concentration biased low.
[109] Concentration biased low.
[110] Concentration biased low.

sample 207808 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Carbon Tetrachloride	~~111~~ ~~UJ~~	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dichloropropane	U	<0.360	<1.00	<0.360	µg/L	1	0.360	1	0.36
Trichloroethene (TCE)	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
Dibromomethane (methylene bromide)	~~112~~ ~~UJ~~	<0.470	<1.00	<0.470	µg/L	1	0.470	1	0.47
Bromodichloromethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
2-Chloroethyl vinyl ether	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33
cis-1,3-Dichloropropene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
trans-1,3-Dichloropropene	U	<0.380	<1.00	<0.380	µg/L	1	0.380	1	0.38
Toluene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
1,1,2-Trichloroethane	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichloropropane	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
Dibromochloromethane	U	<0.320	<1.00	<0.320	µg/L	1	0.320	1	0.32
1,2-Dibromoethane (EDB)	U	<0.340	<1.00	<0.340	µg/L	1	0.340	1	0.34
Tetrachloroethene (PCE)	~~113~~ U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
Chlorobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,1,2-Tetrachloroethane	~~114~~ U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Ethylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
m,p-Xylene	U	<0.540	<1.00	<0.540	µg/L	1	0.540	1	0.54
Bromoform	~~115~~ ~~UJ~~	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
Styrene	U	<0.210	<1.00	<0.210	µg/L	1	0.210	1	0.21
o-Xylene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
1,1,2,2-Tetrachloroethane	U	<0.420	<1.00	<0.420	µg/L	1	0.420	1	0.42
2-Chlorotoluene	U	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
1,2,3-Trichloropropane	U	<0.430	<1.00	<0.430	µg/L	1	0.430	1	0.43
Isopropylbenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
Bromobenzene	U	<0.260	<1.00	<0.260	µg/L	1	0.260	1	0.26
n-Propylbenzene	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
1,3,5-Trimethylbenzene	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
tert-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2,4-Trimethylbenzene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,4-Dichlorobenzene (para)	~~116~~ ~~UJ~~	<0.240	<1.00	<0.240	µg/L	1	0.240	1	0.24
sec-Butylbenzene	U	<0.280	<1.00	<0.280	µg/L	1	0.280	1	0.28
1,3-Dichlorobenzene (meta)	U	<0.310	<1.00	<0.310	µg/L	1	0.310	1	0.31
p-Isopropyltoluene	U	<0.330	<1.00	<0.330	µg/L	1	0.330	1	0.33
4-Chlorotoluene	U	<0.290	<1.00	<0.290	µg/L	1	0.290	1	0.29
1,2-Dichlorobenzene (ortho)	U	<0.270	<1.00	<0.270	µg/L	1	0.270	1	0.27
n-Butylbenzene	U	<0.300	<1.00	<0.300	µg/L	1	0.300	1	0.3
1,2-Dibromo-3-chloropropane	~~117~~ U	<0.680	<5.00	<0.680	µg/L	1	0.680	5	0.68
1,2,3-Trichlorobenzene	U	<0.330	<5.00	<0.330	µg/L	1	0.330	5	0.33

continued ...

[111] Concentration biased low.
[112] Concentration biased low.
[113] Concentration biased low.
[114] Concentration biased low.
[115] Concentration biased low.
[116] Concentration biased low.
[117] Concentration biased low.

sample 207808 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,2,4-Trichlorobenzene	U	<0.340	<5.00	<0.340	µg/L	1	0.340	5	0.34
Naphthalene	U	<0.280	<5.00	<0.280	µg/L	1	0.280	5	0.28
Hexachlorobutadiene	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.2	µg/L	1	50.0	98	75.3 - 131
Toluene-d8		53.8	µg/L	1	50.0	108	91.4 - 112
4-Bromofluorobenzene (4-BFB)		50.6	µg/L	1	50.0	101	83.8 - 108

Method Blank (1)

QC Batch: 62999 | Date Analyzed: 2009-08-27 | Analyzed By: KB
Prep Batch: 53764 | QC Preparation: 2009-08-27 | Prepared By: KB

Parameter	Flag	Result	Units	Reporting Limits
Bromochloromethane		<0.370	µg/L	0.37
Dichlorodifluoromethane		<0.450	µg/L	0.45
Chloromethane (methyl chloride)		<0.590	µg/L	0.59
Vinyl Chloride		<0.690	µg/L	0.69
Bromomethane (methyl bromide)		<0.750	µg/L	0.75
Chloroethane		<0.570	µg/L	0.57
Trichlorofluoromethane		<0.470	µg/L	0.47
Acetone		8.53	µg/L	1.75
Iodomethane (methyl iodide)		<0.320	µg/L	0.32
Carbon Disulfide		<0.250	µg/L	0.25
Acrylonitrile		<0.320	µg/L	0.32
2-Butanone (MEK)		11.3	µg/L	0.81
4-Methyl-2-pentanone (MIBK)		<0.790	µg/L	0.79
2-Hexanone		<0.510	µg/L	0.51
trans 1,4-Dichloro-2-butene		<0.490	µg/L	0.49
1,1-Dichloroethene		<0.400	µg/L	0.4
Methylene chloride		<0.450	µg/L	0.45
MTBE		<0.400	µg/L	0.4
trans-1,2-Dichloroethene		<0.330	µg/L	0.33
1,1-Dichloroethane		<0.290	µg/L	0.29
cis-1,2-Dichloroethene		<0.200	µg/L	0.2
2,2-Dichloropropane		<0.420	µg/L	0.42
1,2-Dichloroethane (EDC)		<0.350	µg/L	0.35
Chloroform		<0.270	µg/L	0.27
1,1,1-Trichloroethane		<0.230	µg/L	0.23
1,1-Dichloropropene		<0.340	µg/L	0.34
Benzene		<0.240	µg/L	0.24

continued ...

zia engineering & environmental consultants, llc

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[illegible] Blvd Ste F 201
Las Cruces, NM 88011
575-532-1526 p
575-532-1587 f

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.:

PROJECT NAME: HELSTF Semi-Annual GroundWater

SAMPLERS SIGNATURE: [signature]

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	VOCs	REMARKS
8-24-09	1015	HLSF-0143-HMW-041-0809	Water	207800	3	X	
8-20-09	1254	HLSF-3839-HMW-029-0809	Water	801	3	X	
8-20-09	0958	HLSF-3839-HMW-033-0809	Water	802	3	X	
8-20-09	0958	HLSF-3839-HMW-133-0809	Water	803	3	X	
8-21-09	1340	HLSF-3839-HMW-032-0809	Water	804	3	X	
8-24-09	1310	HLSF-0143-HMW-039-0809	Water	805	3	X	
8-19-09	1305	HLSF-3839-HMW-035-0809	Water	806	3	X	
8-19-09	1017	HLSF-3839-HMW-034-0809	Water	807	3	X	
8-24-09	1310	HLSF-3839-TB-09-000	Water	808	2	X	Trip Blank

PROJECT INFORMATION	SAMPLES RECEIVED	
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS	
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	Yes
	GOOD CONDITION/COLD: IR 1.4/1.9°C	Yes
VIA: ~~Lab Courier~~ FedEx	CONFORMS TO RECORD	Yes

1. RELINQUISHED BY: (SIGNATURE) [signature]
PRINTED NAME: Bradley T. Davis 8-25-09 1300
RECEIVED BY: (SIGNATURE)
(TIME/DATE)

2. RELINQUISHED BY: (SIGNATURE)
PRINTED NAME:
RECEIVED BY: (SIGNATURE)
(TIME/DATE) CF 8-26-09

3. RECEIVED BY LAB: (SIGNATURE) Carol Fox
PRINTED NAME: Carol Fox
COMPANY: Trace
(TIME/DATE) 8-26-09 8:30 AM

SPECIAL INSTRUCTIONS/COMMENTS: ~~LS 43635691, 43635692~~
PLEASE SEE ATTACHED ANALYTE LIST FOR DETAILS VOCs

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

10902R (2)

Analytical Report

Sample: 209311 - HLSF-0154-DRW-016-0909

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	63556	Date Analyzed:	2009-09-14	Analyzed By:	JG
Prep Batch:	54254	Sample Preparation:	2009-09-14	Prepared By:	JG

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.169	<1.00	<0.169	µg/L	1	0.169	1	0.169
Dichlorodifluoromethane	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Chloromethane (methyl chloride)	U	<0.164	<1.00	<0.164	µg/L	1	0.164	1	0.164
Vinyl Chloride	U	<0.110	<1.00	<0.110	µg/L	1	0.110	1	0.11
Bromomethane (methyl bromide)	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54
Chloroethane	U	<0.232	<1.00	<0.232	µg/L	1	0.232	1	0.232
Trichlorofluoromethane	J	**0.394**	<1.00	<0.149	µg/L	1	0.149	1	0.149
Acetone	U J	<0.893	<10.0	2.05	µg/L	1	0.893	10	0.893
Iodomethane (methyl iodide)	U	<0.104	<5.00	<0.104	µg/L	1	0.104	5	0.104
Carbon Disulfide	U	<0.120	<1.00	<0.120	µg/L	1	0.120	1	0.12
Acrylonitrile	U	<0.189	<1.00	<0.189	µg/L	1	0.189	1	0.189
2-Butanone (MEK)	R U	<0.218	<5.00	0.596	µg/L	1	0.218	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<0.554	<5.00	<0.554	µg/L	1	0.554	5	0.554
2-Hexanone	U	<0.863	<5.00	<0.863	µg/L	1	0.863	5	0.863
trans 1,4-Dichloro-2-butene	U J	<0.607	<10.0	<0.607	µg/L	1	0.607	10	0.607
1,1-Dichloroethene		**5.84**	**5.84**	<0.102	µg/L	1	0.102	1	0.102
Methylene chloride	U	<0.270	<5.00	<0.270	µg/L	1	0.270	5	0.27
MTBE	J	**0.289**	<1.00	<0.122	µg/L	1	0.122	1	0.122
trans-1,2-Dichloroethene	U	<0.168	<1.00	<0.168	µg/L	1	0.168	1	0.168
1,1-Dichloroethane		**1.32**	**1.32**	<0.107	µg/L	1	0.107	1	0.107
cis-1,2-Dichloroethene	U	<0.151	<1.00	<0.151	µg/L	1	0.151	1	0.151
2,2-Dichloropropane	U	<0.167	<1.00	<0.167	µg/L	1	0.167	1	0.167
1,2-Dichloroethane (EDC)	U	<0.0890	<1.00	<0.0890	µg/L	1	0.0890	1	0.089
Chloroform		**1.07**	**1.07**	<0.121	µg/L	1	0.121	1	0.121
1,1,1-Trichloroethane	U	<0.170	<1.00	<0.170	µg/L	1	0.170	1	0.17
1,1-Dichloropropene	U	<0.156	<1.00	<0.156	µg/L	1	0.156	1	0.156
Benzene	J	**0.288**	<1.00	<0.113	µg/L	1	0.113	1	0.113
Carbon Tetrachloride	U	<0.0930	<1.00	<0.0930	µg/L	1	0.0930	1	0.093
1,2-Dichloropropane	U	<0.129	<1.00	<0.129	µg/L	1	0.129	1	0.129
Trichloroethene (TCE)	J	**77.8**	**77.8**	<0.160	µg/L	1	0.160	1	0.16
Dibromomethane (methylene bromide)	U	<0.137	<1.00	<0.137	µg/L	1	0.137	1	0.137
Bromodichloromethane	J	**0.165**	<1.00	<0.107	µg/L	1	0.107	1	0.107
2-Chloroethyl vinyl ether	U R	<0.257	<5.00	<0.257	µg/L	1	0.257	5	0.257
cis-1,3-Dichloropropene	U	<0.109	<1.00	<0.109	µg/L	1	0.109	1	0.109
trans-1,3-Dichloropropene	U	<0.181	<1.00	<0.181	µg/L	1	0.181	1	0.181
Toluene	U	<0.117	<1.00	<0.117	µg/L	1	0.117	1	0.117

continued ...

[1]Concentration biased low.
[2]Concentration biased low.

sample 209311 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,1,2-Trichloroethane	U	<0.143	<1.00	<0.143	µg/L	1	0.143	1	0.143
1,3-Dichloropropane	U	<0.191	<1.00	<0.191	µg/L	1	0.191	1	0.191
Dibromochloromethane	U	<0.118	<1.00	<0.118	µg/L	1	0.118	1	0.118
1,2-Dibromoethane (EDB)	U	<0.131	<1.00	<0.131	µg/L	1	0.131	1	0.131
Tetrachloroethene (PCE)	U J	<0.353	<1.00	<0.353	µg/L	1	0.353	1	0.353
Chlorobenzene	U	<0.135	<1.00	<0.135	µg/L	1	0.135	1	0.135
1,1,1,2-Tetrachloroethane	U	<0.263	<1.00	<0.263	µg/L	1	0.263	1	0.263
Ethylbenzene	U	<0.174	<1.00	<0.174	µg/L	1	0.174	1	0.174
m,p-Xylene	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Bromoform	U	<0.385	<1.00	<0.385	µg/L	1	0.385	1	0.385
Styrene	U	<0.413	<1.00	<0.413	µg/L	1	0.413	1	0.413
o-Xylene	U	<0.115	<1.00	<0.115	µg/L	1	0.115	1	0.115
1,1,2,2-Tetrachloroethane	U	<0.766	<1.00	<0.766	µg/L	1	0.766	1	0.766
2-Chlorotoluene	U	<0.132	<1.00	<0.132	µg/L	1	0.132	1	0.132
1,2,3-Trichloropropane	U	<0.599	<1.00	<0.599	µg/L	1	0.599	1	0.599
Isopropylbenzene	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Bromobenzene	U	<0.266	<1.00	<0.266	µg/L	1	0.266	1	0.266
n-Propylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,3,5-Trimethylbenzene	U	<0.124	<1.00	<0.124	µg/L	1	0.124	1	0.124
tert-Butylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,2,4-Trimethylbenzene	U	<0.114	<1.00	<0.114	µg/L	1	0.114	1	0.114
1,4-Dichlorobenzene (para)	U	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
sec-Butylbenzene	U	<0.452	<1.00	<0.452	µg/L	1	0.452	1	0.452
1,3-Dichlorobenzene (meta)	U	<0.214	<1.00	<0.214	µg/L	1	0.214	1	0.214
p-Isopropyltoluene	U	<0.126	<1.00	<0.126	µg/L	1	0.126	1	0.126
4-Chlorotoluene	U	<0.161	<1.00	<0.161	µg/L	1	0.161	1	0.161
1,2-Dichlorobenzene (ortho)	U	<0.357	<1.00	<0.357	µg/L	1	0.357	1	0.357
n-Butylbenzene	U	<0.125	<1.00	0.163	µg/L	1	0.125	1	0.125
1,2-Dibromo-3-chloropropane	U	<0.977	<5.00	<0.977	µg/L	1	0.977	5	0.977
1,2,3-Trichlorobenzene	U	<0.400	<5.00	<0.400	µg/L	1	0.400	5	0.4
1,2,4-Trichlorobenzene	U	<0.227	<5.00	<0.227	µg/L	1	0.227	5	0.227
Naphthalene	U	<0.672	<5.00	<0.672	µg/L	1	0.672	5	0.672
Hexachlorobutadiene	U	<0.198	<5.00	0.473	µg/L	1	0.198	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.8	µg/L	1	50.0	100	70 - 130
Toluene-d8		51.2	µg/L	1	50.0	102	70 - 130
4-Bromofluorobenzene (4-BFB)		51.2	µg/L	1	50.0	102	70 - 130

Sample: 209312 - HLSF-0154-HCF-001-0909

[3]Concentration biased low.
[4]Concentration biased low.

Laboratory: Lubbock
Analysis: Volatiles
QC Batch: 63556
Prep Batch: 54254

Analytical Method: S 8260B
Date Analyzed: 2009-09-14
Sample Preparation: 2009-09-14

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.169	<1.00	<0.169	µg/L	1	0.169	1	0.169
Dichlorodifluoromethane	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Chloromethane (methyl chloride)	U	<0.164	<1.00	<0.164	µg/L	1	0.164	1	0.164
Vinyl Chloride	U	<0.110	<1.00	<0.110	µg/L	1	0.110	1	0.11
Bromomethane (methyl bromide)	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54
Chloroethane	U	<0.232	<1.00	<0.232	µg/L	1	0.232	1	0.232
Trichlorofluoromethane	U	<0.149	<1.00	<0.149	µg/L	1	0.149	1	0.149
Acetone	U J	<0.893	<10.0	2.05	µg/L	1	0.893	10	0.893
Iodomethane (methyl iodide)	U	<0.104	<5.00	<0.104	µg/L	1	0.104	5	0.104
Carbon Disulfide	J	**0.530**	<1.00	<0.120	µg/L	1	0.120	1	0.12
Acrylonitrile	U	<0.189	<1.00	<0.189	µg/L	1	0.189	1	0.189
2-Butanone (MEK)	U	<0.218	<5.00	0.596	µg/L	1	0.218	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<0.554	<5.00	<0.554	µg/L	1	0.554	5	0.554
2-Hexanone	U	<0.863	<5.00	<0.863	µg/L	1	0.863	5	0.863
trans 1,4-Dichloro-2-butene	U	<0.607	<10.0	<0.607	µg/L	1	0.607	10	0.607
1,1-Dichloroethene	U	<0.102	<1.00	<0.102	µg/L	1	0.102	1	0.102
Methylene chloride	U	<0.270	<5.00	<0.270	µg/L	1	0.270	5	0.27
MTBE		**1.40**	**1.40**	<0.122	µg/L	1	0.122	1	0.122
trans-1,2-Dichloroethene	U	<0.168	<1.00	<0.168	µg/L	1	0.168	1	0.168
1,1-Dichloroethane	J	**0.621**	<1.00	<0.107	µg/L	1	0.107	1	0.107
cis-1,2-Dichloroethene	U	<0.151	<1.00	<0.151	µg/L	1	0.151	1	0.151
2,2-Dichloropropane	U	<0.167	<1.00	<0.167	µg/L	1	0.167	1	0.167
1,2-Dichloroethane (EDC)	U	<0.0890	<1.00	<0.0890	µg/L	1	0.0890	1	0.089
Chloroform	U	<0.121	<1.00	<0.121	µg/L	1	0.121	1	0.121
1,1,1-Trichloroethane	U	<0.170	<1.00	<0.170	µg/L	1	0.170	1	0.17
1,1-Dichloropropene	U	<0.156	<1.00	<0.156	µg/L	1	0.156	1	0.156
Benzene		**4.80**	**4.80**	<0.113	µg/L	1	0.113	1	0.113
Carbon Tetrachloride	U	<0.0930	<1.00	<0.0930	µg/L	1	0.0930	1	0.093
1,2-Dichloropropane	U	<0.129	<1.00	<0.129	µg/L	1	0.129	1	0.129
Trichloroethene (TCE)	J	**0.170**	<1.00	<0.160	µg/L	1	0.160	1	0.16
Dibromomethane (methylene bromide)	U	<0.137	<1.00	<0.137	µg/L	1	0.137	1	0.137
Bromodichloromethane	U	<0.107	<1.00	<0.107	µg/L	1	0.107	1	0.107
2-Chloroethyl vinyl ether	U	<0.257	<5.00	<0.257	µg/L	1	0.257	5	0.257
cis-1,3-Dichloropropene	U	<0.109	<1.00	<0.109	µg/L	1	0.109	1	0.109
trans-1,3-Dichloropropene	U	<0.181	<1.00	<0.181	µg/L	1	0.181	1	0.181
Toluene	J	**0.124**	<1.00	<0.117	µg/L	1	0.117	1	0.117
1,1,2-Trichloroethane	U	<0.143	<1.00	<0.143	µg/L	1	0.143	1	0.143
1,3-Dichloropropane	U	<0.191	<1.00	<0.191	µg/L	1	0.191	1	0.191
Dibromochloromethane	U	<0.118	<1.00	<0.118	µg/L	1	0.118	1	0.118
1,2-Dibromoethane (EDB)	U	<0.131	<1.00	<0.131	µg/L	1	0.131	1	0.131

continued . . .

[5]Concentration biased low.
[6]Concentration biased low.

sample 209312 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Tetrachloroethene (PCE)	U J	<0.353	<1.00	<0.353	µg/L	1	0.353	1	0.353
Chlorobenzene	U	<0.135	<1.00	<0.135	µg/L	1	0.135	1	0.135
1,1,1,2-Tetrachloroethane	U	<0.263	<1.00	<0.263	µg/L	1	0.263	1	0.263
Ethylbenzene	U	<0.174	<1.00	<0.174	µg/L	1	0.174	1	0.174
m,p-Xylene	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Bromoform	U	<0.385	<1.00	<0.385	µg/L	1	0.385	1	0.385
Styrene	U	<0.413	<1.00	<0.413	µg/L	1	0.413	1	0.413
o-Xylene	U	<0.115	<1.00	<0.115	µg/L	1	0.115	1	0.115
1,1,2,2-Tetrachloroethane	U	<0.766	<1.00	<0.766	µg/L	1	0.766	1	0.766
2-Chlorotoluene	U	<0.132	<1.00	<0.132	µg/L	1	0.132	1	0.132
1,2,3-Trichloropropane	U	<0.599	<1.00	<0.599	µg/L	1	0.599	1	0.599
Isopropylbenzene		**2.22**	**2.22**	<0.145	µg/L	1	0.145	1	0.145
Bromobenzene	U	<0.266	<1.00	<0.266	µg/L	1	0.266	1	0.266
n-Propylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,3,5-Trimethylbenzene	U	<0.124	<1.00	<0.124	µg/L	1	0.124	1	0.124
tert-Butylbenzene	J	**0.195**	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,2,4-Trimethylbenzene	U	<0.114	<1.00	<0.114	µg/L	1	0.114	1	0.114
1,4-Dichlorobenzene (para)	U	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
sec-Butylbenzene		**3.21**	**3.21**	<0.452	µg/L	1	0.452	1	0.452
1,3-Dichlorobenzene (meta)	U	<0.214	<1.00	<0.214	µg/L	1	0.214	1	0.214
p-Isopropyltoluene	U	<0.126	<1.00	<0.126	µg/L	1	0.126	1	0.126
4-Chlorotoluene	U	<0.161	<1.00	<0.161	µg/L	1	0.161	1	0.161
1,2-Dichlorobenzene (ortho)	U	<0.357	<1.00	<0.357	µg/L	1	0.357	1	0.357
n-Butylbenzene	UB	**0.696**	<1.00	0.163	µg/L	1	0.125	1	0.125
1,2-Dibromo-3-chloropropane	U	<0.977	<5.00	<0.977	µg/L	1	0.977	5	0.977
1,2,3-Trichlorobenzene	U	<0.400	<5.00	<0.400	µg/L	1	0.400	5	0.4
1,2,4-Trichlorobenzene	U	<0.227	<5.00	<0.227	µg/L	1	0.227	5	0.227
Naphthalene		**35.0**	**35.0**	<0.672	µg/L	1	0.672	5	0.672
Hexachlorobutadiene	U	<0.198	<5.00	0.473	µg/L	1	0.198	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		48.6	µg/L	1	50.0	97	70 - 130
Toluene-d8		52.0	µg/L	1	50.0	104	70 - 130
4-Bromofluorobenzene (4-BFB)		51.1	µg/L	1	50.0	102	70 - 130

Sample: 209313 - HLSF-0154-DRW-005-0909

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	63556	Date Analyzed:	2009-09-14	Analyzed By:	JG
Prep Batch:	54254	Sample Preparation:	2009-09-14	Prepared By:	JG

[7]Concentration biased low.
[8]Concentration biased low.

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.169	<1.00	<0.169	µg/L	1	0.169	1	0.169
Dichlorodifluoromethane	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Chloromethane (methyl chloride)	U	<0.164	<1.00	<0.164	µg/L	1	0.164	1	0.164
Vinyl Chloride	U	<0.110	<1.00	<0.110	µg/L	1	0.110	1	0.11
Bromomethane (methyl bromide)	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54
Chloroethane	U	<0.232	<1.00	<0.232	µg/L	1	0.232	1	0.232
Trichlorofluoromethane	U	<0.149	<1.00	<0.149	µg/L	1	0.149	1	0.149
Acetone	J [9] UB	**1.32**	<10.0	2.05	µg/L	1	0.893	10	0.893
Iodomethane (methyl iodide)	U	<0.104	<5.00	<0.104	µg/L	1	0.104	5	0.104
Carbon Disulfide	U	<0.120	<1.00	<0.120	µg/L	1	0.120	1	0.12
Acrylonitrile	U	<0.189	<1.00	<0.189	µg/L	1	0.189	1	0.189
2-Butanone (MEK)	[10] U	<0.218	<5.00	0.596	µg/L	1	0.218	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<0.554	<5.00	<0.554	µg/L	1	0.554	5	0.554
2-Hexanone	U	<0.863	<5.00	<0.863	µg/L	1	0.863	5	0.863
trans 1,4-Dichloro-2-butene	U	<0.607	<10.0	<0.607	µg/L	1	0.607	10	0.607
1,1-Dichloroethene	J	**0.518**	<1.00	<0.102	µg/L	1	0.102	1	0.102
Methylene chloride	U	<0.270	<5.00	<0.270	µg/L	1	0.270	5	0.27
MTBE		**2.42**	**2.42**	<0.122	µg/L	1	0.122	1	0.122
trans-1,2-Dichloroethene	U	<0.168	<1.00	<0.168	µg/L	1	0.168	1	0.168
1,1-Dichloroethane		**42.0**	**42.0**	<0.107	µg/L	1	0.107	1	0.107
cis-1,2-Dichloroethene	U	<0.151	<1.00	<0.151	µg/L	1	0.151	1	0.151
2,2-Dichloropropane	U	<0.167	<1.00	<0.167	µg/L	1	0.167	1	0.167
1,2-Dichloroethane (EDC)	U	<0.0890	<1.00	<0.0890	µg/L	1	0.0890	1	0.089
Chloroform	U	<0.121	<1.00	<0.121	µg/L	1	0.121	1	0.121
1,1,1-Trichloroethane	U	<0.170	<1.00	<0.170	µg/L	1	0.170	1	0.17
1,1-Dichloropropene	U	<0.156	<1.00	<0.156	µg/L	1	0.156	1	0.156
Benzene		**5.49**	**5.49**	<0.113	µg/L	1	0.113	1	0.113
Carbon Tetrachloride	U	<0.0930	<1.00	<0.0930	µg/L	1	0.0930	1	0.093
1,2-Dichloropropane	U	<0.129	<1.00	<0.129	µg/L	1	0.129	1	0.129
Trichloroethene (TCE)	J	**0.529**	<1.00	<0.160	µg/L	1	0.160	1	0.16
Dibromomethane (methylene bromide)	U	<0.137	<1.00	<0.137	µg/L	1	0.137	1	0.137
Bromodichloromethane	U	<0.107	<1.00	<0.107	µg/L	1	0.107	1	0.107
2-Chloroethyl vinyl ether	U	<0.257	<5.00	<0.257	µg/L	1	0.257	5	0.257
cis-1,3-Dichloropropene	U	<0.109	<1.00	<0.109	µg/L	1	0.109	1	0.109
trans-1,3-Dichloropropene	U	<0.181	<1.00	<0.181	µg/L	1	0.181	1	0.181
Toluene	J	**0.231**	<1.00	<0.117	µg/L	1	0.117	1	0.117
1,1,2-Trichloroethane	U	<0.143	<1.00	<0.143	µg/L	1	0.143	1	0.143
1,3-Dichloropropane	U	<0.191	<1.00	<0.191	µg/L	1	0.191	1	0.191
Dibromochloromethane	U	<0.118	<1.00	<0.118	µg/L	1	0.118	1	0.118
1,2-Dibromoethane (EDB)	U	<0.131	<1.00	<0.131	µg/L	1	0.131	1	0.131
Tetrachloroethene (PCE)	[11] U J	<0.353	<1.00	<0.353	µg/L	1	0.353	1	0.353
Chlorobenzene	U	<0.135	<1.00	<0.135	µg/L	1	0.135	1	0.135
1,1,1,2-Tetrachloroethane	U	<0.263	<1.00	<0.263	µg/L	1	0.263	1	0.263
Ethylbenzene	U	<0.174	<1.00	<0.174	µg/L	1	0.174	1	0.174

continued . . .

[9] Concentration biased low.
[10] Concentration biased low.
[11] Concentration biased low.

sample 209313 continued . . .

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
m,p-Xylene	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Bromoform	U	<0.385	<1.00	<0.385	µg/L	1	0.385	1	0.385
Styrene	U	<0.413	<1.00	<0.413	µg/L	1	0.413	1	0.413
o-Xylene	J	**0.179**	<1.00	<0.115	µg/L	1	0.115	1	0.115
1,1,2,2-Tetrachloroethane	U	<0.766	<1.00	<0.766	µg/L	1	0.766	1	0.766
2-Chlorotoluene	U	<0.132	<1.00	<0.132	µg/L	1	0.132	1	0.132
1,2,3-Trichloropropane	U	<0.599	<1.00	<0.599	µg/L	1	0.599	1	0.599
Isopropylbenzene		**1.49**	**1.49**	<0.145	µg/L	1	0.145	1	0.145
Bromobenzene	U	<0.266	<1.00	<0.266	µg/L	1	0.266	1	0.266
n-Propylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,3,5-Trimethylbenzene	U	<0.124	<1.00	<0.124	µg/L	1	0.124	1	0.124
tert-Butylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,2,4-Trimethylbenzene	UB[12]	**0.123**	<1.00	<0.114	µg/L	1	0.114	1	0.114
1,4-Dichlorobenzene (para)	U	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
sec-Butylbenzene		**2.20**	**2.20**	<0.452	µg/L	1	0.452	1	0.452
1,3-Dichlorobenzene (meta)	U	<0.214	<1.00	<0.214	µg/L	1	0.214	1	0.214
p-Isopropyltoluene	U	<0.126	<1.00	<0.126	µg/L	1	0.126	1	0.126
4-Chlorotoluene	U	<0.161	<1.00	<0.161	µg/L	1	0.161	1	0.161
1,2-Dichlorobenzene (ortho)	U	<0.357	<1.00	<0.357	µg/L	1	0.357	1	0.357
n-Butylbenzene	JB	**0.631**	<1.00	0.163	µg/L	1	0.125	1	0.125
1,2-Dibromo-3-chloropropane	U	<0.977	<5.00	<0.977	µg/L	1	0.977	5	0.977
1,2,3-Trichlorobenzene	U	<0.400	<5.00	<0.400	µg/L	1	0.400	5	0.4
1,2,4-Trichlorobenzene	U	<0.227	<5.00	<0.227	µg/L	1	0.227	5	0.227
Naphthalene		**9.47**	**9.47**	<0.672	µg/L	1	0.672	5	0.672
Hexachlorobutadiene	U	<0.198	<5.00	0.473	µg/L	1	0.198	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		48.9	µg/L	1	50.0	98	70 - 130
Toluene-d8		50.8	µg/L	1	50.0	102	70 - 130
4-Bromofluorobenzene (4-BFB)		51.4	µg/L	1	50.0	103	70 - 130

Sample: 209314 - HLSF-0143-HMW-013-0909

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	63556	Date Analyzed:	2009-09-14	Analyzed By:	JG
Prep Batch:	54254	Sample Preparation:	2009-09-14	Prepared By:	JG

continued . . .

[12]Concentration biased low.

sample 209314 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.169	<1.00	<0.169	µg/L	1	0.169	1	0.169
Dichlorodifluoromethane	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Chloromethane (methyl chloride)	U	<0.164	<1.00	<0.164	µg/L	1	0.164	1	0.164
Vinyl Chloride	U	<0.110	<1.00	<0.110	µg/L	1	0.110	1	0.11
Bromomethane (methyl bromide)	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54
Chloroethane	U	<0.232	<1.00	<0.232	µg/L	1	0.232	1	0.232
Trichlorofluoromethane	U	<0.149	<1.00	<0.149	µg/L	1	0.149	1	0.149
Acetone	U J	<0.893	<10.0	2.05	µg/L	1	0.893	10	0.893
Iodomethane (methyl iodide)	U	<0.104	<5.00	<0.104	µg/L	1	0.104	5	0.104
Carbon Disulfide	U	<0.120	<1.00	<0.120	µg/L	1	0.120	1	0.12
Acrylonitrile	U	<0.189	<1.00	<0.189	µg/L	1	0.189	1	0.189
2-Butanone (MEK)	U	<0.218	<5.00	0.596	µg/L	1	0.218	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<0.554	<5.00	<0.554	µg/L	1	0.554	5	0.554
2-Hexanone	U	<0.863	<5.00	<0.863	µg/L	1	0.863	5	0.863
trans 1,4-Dichloro-2-butene	U	<0.607	<10.0	<0.607	µg/L	1	0.607	10	0.607
1,1-Dichloroethene	U	<0.102	<1.00	<0.102	µg/L	1	0.102	1	0.102
Methylene chloride	U	<0.270	<5.00	<0.270	µg/L	1	0.270	5	0.27
MTBE	U	<0.122	<1.00	<0.122	µg/L	1	0.122	1	0.122
trans-1,2-Dichloroethene	U	<0.168	<1.00	<0.168	µg/L	1	0.168	1	0.168
1,1-Dichloroethane		**1.16**	**1.16**	<0.107	µg/L	1	0.107	1	0.107
cis-1,2-Dichloroethene	U	<0.151	<1.00	<0.151	µg/L	1	0.151	1	0.151
2,2-Dichloropropane	U	<0.167	<1.00	<0.167	µg/L	1	0.167	1	0.167
1,2-Dichloroethane (EDC)	U	<0.0890	<1.00	<0.0890	µg/L	1	0.0890	1	0.089
Chloroform	J	**0.982**	<1.00	<0.121	µg/L	1	0.121	1	0.121
1,1,1-Trichloroethane	U	<0.170	<1.00	<0.170	µg/L	1	0.170	1	0.17
1,1-Dichloropropene	U	<0.156	<1.00	<0.156	µg/L	1	0.156	1	0.156
Benzene	U	<0.113	<1.00	<0.113	µg/L	1	0.113	1	0.113
Carbon Tetrachloride	U	<0.0930	<1.00	<0.0930	µg/L	1	0.0930	1	0.093
1,2-Dichloropropane	U	<0.129	<1.00	<0.129	µg/L	1	0.129	1	0.129
Trichloroethene (TCE)	U	<0.160	<1.00	<0.160	µg/L	1	0.160	1	0.16
Dibromomethane (methylene bromide)	U	<0.137	<1.00	<0.137	µg/L	1	0.137	1	0.137
Bromodichloromethane	U	<0.107	<1.00	<0.107	µg/L	1	0.107	1	0.107
2-Chloroethyl vinyl ether	U	<0.257	<5.00	<0.257	µg/L	1	0.257	5	0.257
cis-1,3-Dichloropropene	U	<0.109	<1.00	<0.109	µg/L	1	0.109	1	0.109
trans-1,3-Dichloropropene	U	<0.181	<1.00	<0.181	µg/L	1	0.181	1	0.181
Toluene	U	<0.117	<1.00	<0.117	µg/L	1	0.117	1	0.117
1,1,2-Trichloroethane	U	<0.143	<1.00	<0.143	µg/L	1	0.143	1	0.143
1,3-Dichloropropane	U	<0.191	<1.00	<0.191	µg/L	1	0.191	1	0.191
Dibromochloromethane	U	<0.118	<1.00	<0.118	µg/L	1	0.118	1	0.118

continued ...

[13]Concentration biased low.
[14]Concentration biased low.

sample 209314 continued . . .

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,2-Dibromoethane (EDB)	U	<0.131	<1.00	<0.131	µg/L	1	0.131	1	0.131
Tetrachloroethene (PCE)	[16] U J	<0.353	<1.00	<0.353	µg/L	1	0.353	1	0.353
Chlorobenzene	U	<0.135	<1.00	<0.135	µg/L	1	0.135	1	0.135
1,1,1,2-Tetrachloroethane	U	<0.263	<1.00	<0.263	µg/L	1	0.263	1	0.263
Ethylbenzene	U	<0.174	<1.00	<0.174	µg/L	1	0.174	1	0.174
m,p-Xylene	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Bromoform	U	<0.385	<1.00	<0.385	µg/L	1	0.385	1	0.385
Styrene	U	<0.413	<1.00	<0.413	µg/L	1	0.413	1	0.413
o-Xylene	U	<0.115	<1.00	<0.115	µg/L	1	0.115	1	0.115
1,1,2,2-Tetrachloroethane	U	<0.766	<1.00	<0.766	µg/L	1	0.766	1	0.766
2-Chlorotoluene	U	<0.132	<1.00	<0.132	µg/L	1	0.132	1	0.132
1,2,3-Trichloropropane	U	<0.599	<1.00	<0.599	µg/L	1	0.599	1	0.599
Isopropylbenzene	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Bromobenzene	U	<0.266	<1.00	<0.266	µg/L	1	0.266	1	0.266
n-Propylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,3,5-Trimethylbenzene	U	<0.124	<1.00	<0.124	µg/L	1	0.124	1	0.124
tert-Butylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,2,4-Trimethylbenzene	[16] U	<0.114	<1.00	<0.114	µg/L	1	0.114	1	0.114
1,4-Dichlorobenzene (para)	U	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
sec-Butylbenzene	U	<0.452	<1.00	<0.452	µg/L	1	0.452	1	0.452
1,3-Dichlorobenzene (meta)	U	<0.214	<1.00	<0.214	µg/L	1	0.214	1	0.214
p-Isopropyltoluene	U	<0.126	<1.00	<0.126	µg/L	1	0.126	1	0.126
4-Chlorotoluene	U	<0.161	<1.00	<0.161	µg/L	1	0.161	1	0.161
1,2-Dichlorobenzene (ortho)	U	<0.357	<1.00	<0.357	µg/L	1	0.357	1	0.357
n-Butylbenzene	U	<0.125	<1.00	0.163	µg/L	1	0.125	1	0.125
1,2-Dibromo-3-chloropropane	U	<0.977	<5.00	<0.977	µg/L	1	0.977	5	0.977
1,2,3-Trichlorobenzene	U	<0.400	<5.00	<0.400	µg/L	1	0.400	5	0.4
1,2,4-Trichlorobenzene	U	<0.227	<5.00	<0.227	µg/L	1	0.227	5	0.227
Naphthalene	U	<0.672	<5.00	<0.672	µg/L	1	0.672	5	0.672
Hexachlorobutadiene	U	<0.198	<5.00	0.473	µg/L	1	0.198	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		48.8	µg/L	1	50.0	98	70 - 130
Toluene-d8		51.6	µg/L	1	50.0	103	70 - 130
4-Bromofluorobenzene (4-BFB)		51.0	µg/L	1	50.0	102	70 - 130

Sample: 209315 - HLSF-0143-HMW-036-0909

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	63556	Date Analyzed:	2009-09-14	Analyzed By:	JG

[15]Concentration biased low.
[16]Concentration biased low.

Prep Batch: 54254 Sample Preparation: 2009-09-14 Prepared By: JG

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.169	<1.00	<0.169	µg/L	1	0.169	1	0.169
Dichlorodifluoromethane	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Chloromethane (methyl chloride)	U	<0.164	<1.00	<0.164	µg/L	1	0.164	1	0.164
Vinyl Chloride	U	<0.110	<1.00	<0.110	µg/L	1	0.110	1	0.11
Bromomethane (methyl bromide)	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54
Chloroethane	U	<0.232	<1.00	<0.232	µg/L	1	0.232	1	0.232
Trichlorofluoromethane	U	<0.149	<1.00	<0.149	µg/L	1	0.149	1	0.149
Acetone	J- [17] UB	**1.15**	<10.0	2.05	µg/L	1	0.893	10	0.893
Iodomethane (methyl iodide)	U	<0.104	<5.00	<0.104	µg/L	1	0.104	5	0.104
Carbon Disulfide	U	<0.120	<1.00	<0.120	µg/L	1	0.120	1	0.12
Acrylonitrile	U	<0.189	<1.00	<0.189	µg/L	1	0.189	1	0.189
2-Butanone (MEK)	R [18] U	<0.218	<5.00	0.596	µg/L	1	0.218	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<0.554	<5.00	<0.554	µg/L	1	0.554	5	0.554
2-Hexanone	U	<0.863	<5.00	<0.863	µg/L	1	0.863	5	0.863
trans 1,4-Dichloro-2-butene	U	<0.607	<10.0	<0.607	µg/L	1	0.607	10	0.607
1,1-Dichloroethene	U	<0.102	<1.00	<0.102	µg/L	1	0.102	1	0.102
Methylene chloride	J	**0.283**	<5.00	<0.270	µg/L	1	0.270	5	0.27
MTBE	U	<0.122	<1.00	<0.122	µg/L	1	0.122	1	0.122
trans-1,2-Dichloroethene	U	<0.168	<1.00	<0.168	µg/L	1	0.168	1	0.168
1,1-Dichloroethane	J	**0.273**	<1.00	<0.107	µg/L	1	0.107	1	0.107
cis-1,2-Dichloroethene	U	<0.151	<1.00	<0.151	µg/L	1	0.151	1	0.151
2,2-Dichloropropane	U	<0.167	<1.00	<0.167	µg/L	1	0.167	1	0.167
1,2-Dichloroethane (EDC)	U	<0.0890	<1.00	<0.0890	µg/L	1	0.0890	1	0.089
Chloroform	J	**0.549**	<1.00	<0.121	µg/L	1	0.121	1	0.121
1,1,1-Trichloroethane	U	<0.170	<1.00	<0.170	µg/L	1	0.170	1	0.17
1,1-Dichloropropene	U	<0.156	<1.00	<0.156	µg/L	1	0.156	1	0.156
Benzene	J	**0.130**	<1.00	<0.113	µg/L	1	0.113	1	0.113
Carbon Tetrachloride	U	<0.0930	<1.00	<0.0930	µg/L	1	0.0930	1	0.093
1,2-Dichloropropane	U	<0.129	<1.00	<0.129	µg/L	1	0.129	1	0.129
Trichloroethene (TCE)	U	<0.160	<1.00	<0.160	µg/L	1	0.160	1	0.16
Dibromomethane (methylene bromide)	U	<0.137	<1.00	<0.137	µg/L	1	0.137	1	0.137
Bromodichloromethane	U	<0.107	<1.00	<0.107	µg/L	1	0.107	1	0.107
2-Chloroethyl vinyl ether	U	<0.257	<5.00	<0.257	µg/L	1	0.257	5	0.257
cis-1,3-Dichloropropene	U	<0.109	<1.00	<0.109	µg/L	1	0.109	1	0.109
trans-1,3-Dichloropropene	U	<0.181	<1.00	<0.181	µg/L	1	0.181	1	0.181
Toluene	U	<0.117	<1.00	<0.117	µg/L	1	0.117	1	0.117
1,1,2-Trichloroethane	U	<0.143	<1.00	<0.143	µg/L	1	0.143	1	0.143
1,3-Dichloropropane	U	<0.191	<1.00	<0.191	µg/L	1	0.191	1	0.191
Dibromochloromethane	U	<0.118	<1.00	<0.118	µg/L	1	0.118	1	0.118
1,2-Dibromoethane (EDB)	U	<0.131	<1.00	<0.131	µg/L	1	0.131	1	0.131
Tetrachloroethene (PCE)	R [19] U J	<0.353	<1.00	<0.353	µg/L	1	0.353	1	0.353
Chlorobenzene	U	<0.135	<1.00	<0.135	µg/L	1	0.135	1	0.135

continued . . .

[17] Concentration biased low.
[18] Concentration biased low.
[19] Concentration biased low.

sample 209315 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,1,1,2-Tetrachloroethane	U	<0.263	<1.00	<0.263	µg/L	1	0.263	1	0.263
Ethylbenzene	U	<0.174	<1.00	<0.174	µg/L	1	0.174	1	0.174
m,p-Xylene	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Bromoform	U	<0.385	<1.00	<0.385	µg/L	1	0.385	1	0.385
Styrene	U	<0.413	<1.00	<0.413	µg/L	1	0.413	1	0.413
o-Xylene	J	**0.122**	<1.00	<0.115	µg/L	1	0.115	1	0.115
1,1,2,2-Tetrachloroethane	U	<0.766	<1.00	<0.766	µg/L	1	0.766	1	0.766
2-Chlorotoluene	U	<0.132	<1.00	<0.132	µg/L	1	0.132	1	0.132
1,2,3-Trichloropropane	U	<0.599	<1.00	<0.599	µg/L	1	0.599	1	0.599
Isopropylbenzene	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Bromobenzene	U	<0.266	<1.00	<0.266	µg/L	1	0.266	1	0.266
n-Propylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,3,5-Trimethylbenzene	U	<0.124	<1.00	<0.124	µg/L	1	0.124	1	0.124
tert-Butylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,2,4-Trimethylbenzene	[20] U	<0.114	<1.00	<0.114	µg/L	1	0.114	1	0.114
1,4-Dichlorobenzene (para)	U	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
sec-Butylbenzene	U	<0.452	<1.00	<0.452	µg/L	1	0.452	1	0.452
1,3-Dichlorobenzene (meta)	U	<0.214	<1.00	<0.214	µg/L	1	0.214	1	0.214
p-Isopropyltoluene	U	<0.126	<1.00	<0.126	µg/L	1	0.126	1	0.126
4-Chlorotoluene	U	<0.161	<1.00	<0.161	µg/L	1	0.161	1	0.161
1,2-Dichlorobenzene (ortho)	U	<0.357	<1.00	<0.357	µg/L	1	0.357	1	0.357
n-Butylbenzene	U	<0.125	<1.00	0.163	µg/L	1	0.125	1	0.125
1,2-Dibromo-3-chloropropane	U	<0.977	<5.00	<0.977	µg/L	1	0.977	5	0.977
1,2,3-Trichlorobenzene	U	<0.400	<5.00	<0.400	µg/L	1	0.400	5	0.4
1,2,4-Trichlorobenzene	U	<0.227	<5.00	<0.227	µg/L	1	0.227	5	0.227
Naphthalene	U	<0.672	<5.00	<0.672	µg/L	1	0.672	5	0.672
Hexachlorobutadiene	U	<0.198	<5.00	0.473	µg/L	1	0.198	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.4	µg/L	1	50.0	101	70 - 130
Toluene-d8		51.6	µg/L	1	50.0	103	70 - 130
4-Bromofluorobenzene (4-BFB)		51.8	µg/L	1	50.0	104	70 - 130

Sample: 209316 - HLSF-0154-DRW-004-0909

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	63556	Date Analyzed:	2009-09-14	Analyzed By:	JG
Prep Batch:	54254	Sample Preparation:	2009-09-14	Prepared By:	JG

[20] Concentration biased low.

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.845	<5.00	<0.845	µg/L	5	0.845	1	0.169
Dichlorodifluoromethane	U	<0.725	<5.00	<0.725	µg/L	5	0.725	1	0.145
Chloromethane (methyl chloride)	U	<0.820	<5.00	<0.820	µg/L	5	0.820	1	0.164
Vinyl Chloride	U	<0.550	<5.00	<0.550	µg/L	5	0.550	1	0.11
Bromomethane (methyl bromide)	U	<2.70	<25.0	<2.70	µg/L	5	2.70	5	0.54
Chloroethane	U	<1.16	<5.00	<1.16	µg/L	5	1.16	1	0.232
Trichlorofluoromethane	U	<0.745	<5.00	<0.745	µg/L	5	0.745	1	0.149
Acetone	J [21] XR UB	**8.02**	<50.0	10.2	µg/L	5	4.46	10	0.893
Iodomethane (methyl iodide)	U	<0.520	<25.0	<0.520	µg/L	5	0.520	5	0.104
Carbon Disulfide	U	<0.600	<5.00	<0.600	µg/L	5	0.600	1	0.12
Acrylonitrile	U	<0.945	<5.00	<0.945	µg/L	5	0.945	1	0.189
2-Butanone (MEK)	[22] XR UB	**2.24**	<25.0	2.98	µg/L	5	1.09	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<2.77	<25.0	<2.77	µg/L	5	2.77	5	0.554
2-Hexanone	U	<4.32	<25.0	<4.32	µg/L	5	4.32	5	0.863
trans 1,4-Dichloro-2-butene	U	<3.04	<50.0	<3.04	µg/L	5	3.04	10	0.607
1,1-Dichloroethene	J	**4.01**	<5.00	<0.510	µg/L	5	0.510	1	0.102
Methylene chloride	J	**1.45**	<25.0	<1.35	µg/L	5	1.35	5	0.27
MTBE		**7.13**	**7.13**	<0.610	µg/L	5	0.610	1	0.122
trans-1,2-Dichloroethene	U	<0.840	<5.00	<0.840	µg/L	5	0.840	1	0.168
1,1-Dichloroethane		**142**	**142**	<0.535	µg/L	5	0.535	1	0.107
cis-1,2-Dichloroethene	U	<0.755	<5.00	<0.755	µg/L	5	0.755	1	0.151
2,2-Dichloropropane	U	<0.835	<5.00	<0.835	µg/L	5	0.835	1	0.167
1,2-Dichloroethane (EDC)	U	<0.445	<5.00	<0.445	µg/L	5	0.445	1	0.089
Chloroform	U	<0.605	<5.00	<0.605	µg/L	5	0.605	1	0.121
1,1,1-Trichloroethane	U	<0.850	<5.00	<0.850	µg/L	5	0.850	1	0.17
1,1-Dichloropropene		**7.60**	**7.60**	<0.780	µg/L	5	0.780	1	0.156
Benzene		**5.10**	**5.10**	<0.565	µg/L	5	0.565	1	0.113
Carbon Tetrachloride	U	<0.465	<5.00	<0.465	µg/L	5	0.465	1	0.093
1,2-Dichloropropane	U	<0.645	<5.00	<0.645	µg/L	5	0.645	1	0.129
Trichloroethene (TCE)	U	<0.800	<5.00	<0.800	µg/L	5	0.800	1	0.16
Dibromomethane (methylene bromide)	U	<0.685	<5.00	<0.685	µg/L	5	0.685	1	0.137
Bromodichloromethane	U	<0.535	<5.00	<0.535	µg/L	5	0.535	1	0.107
2-Chloroethyl vinyl ether	U	<1.28	<25.0	<1.28	µg/L	5	1.28	5	0.257
cis-1,3-Dichloropropene	U	<0.545	<5.00	<0.545	µg/L	5	0.545	1	0.109
trans-1,3-Dichloropropene	U	<0.905	<5.00	<0.905	µg/L	5	0.905	1	0.181
Toluene	J	**0.607**	<5.00	<0.585	µg/L	5	0.585	1	0.117
1,1,2-Trichloroethane	U	<0.715	<5.00	<0.715	µg/L	5	0.715	1	0.143
1,3-Dichloropropane	U	<0.955	<5.00	<0.955	µg/L	5	0.955	1	0.191
Dibromochloromethane	U	<0.590	<5.00	<0.590	µg/L	5	0.590	1	0.118
1,2-Dibromoethane (EDB)	U	<0.655	<5.00	<0.655	µg/L	5	0.655	1	0.131
Tetrachloroethene (PCE)	[23] U J	<1.76	<5.00	<1.76	µg/L	5	1.76	1	0.353
Chlorobenzene	U	<0.675	<5.00	<0.675	µg/L	5	0.675	1	0.135
1,1,1,2-Tetrachloroethane	U	<1.32	<5.00	<1.32	µg/L	5	1.32	1	0.263
Ethylbenzene	U	<0.870	<5.00	<0.870	µg/L	5	0.870	1	0.174

continued . . .

[21] Concentration biased low.
[22] Concentration biased low.
[23] Concentration biased low.

sample 209316 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
m,p-Xylene	U	<1.10	<5.00	<1.10	µg/L	5	1.10	1	0.22
Bromoform	U	<1.92	<5.00	<1.92	µg/L	5	1.92	1	0.385
Styrene	U	<2.06	<5.00	<2.06	µg/L	5	2.06	1	0.413
o-Xylene	U	<0.575	<5.00	<0.575	µg/L	5	0.575	1	0.115
1,1,2,2-Tetrachloroethane	U	<3.83	<5.00	<3.83	µg/L	5	3.83	1	0.766
2-Chlorotoluene	U	<0.660	<5.00	<0.660	µg/L	5	0.660	1	0.132
1,2,3-Trichloropropane	U	<3.00	<5.00	<3.00	µg/L	5	3.00	1	0.599
Isopropylbenzene	J	**2.33**	<5.00	<0.725	µg/L	5	0.725	1	0.145
Bromobenzene	U	<1.33	<5.00	<1.33	µg/L	5	1.33	1	0.266
n-Propylbenzene	U	<0.680	<5.00	<0.680	µg/L	5	0.680	1	0.136
1,3,5-Trimethylbenzene	U	<0.620	<5.00	<0.620	µg/L	5	0.620	1	0.124
tert-Butylbenzene	U	<0.680	<5.00	<0.680	µg/L	5	0.680	1	0.136
1,2,4-Trimethylbenzene	[24] U	<0.570	<5.00	<0.570	µg/L	5	0.570	1	0.114
1,4-Dichlorobenzene (para)	U	<1.15	<5.00	<1.15	µg/L	5	1.15	1	0.23
sec-Butylbenzene	J	**3.96**	<5.00	<2.26	µg/L	5	2.26	1	0.452
1,3-Dichlorobenzene (meta)	U	<1.07	<5.00	<1.07	µg/L	5	1.07	1	0.214
p-Isopropyltoluene	U	<0.630	<5.00	<0.630	µg/L	5	0.630	1	0.126
4-Chlorotoluene	U	<0.805	<5.00	<0.805	µg/L	5	0.805	1	0.161
1,2-Dichlorobenzene (ortho)	U	<1.78	<5.00	<1.78	µg/L	5	1.78	1	0.357
n-Butylbenzene	U	<0.625	<5.00	0.815	µg/L	5	0.625	1	0.125
1,2-Dibromo-3-chloropropane	U	<4.88	<25.0	<4.88	µg/L	5	4.88	5	0.977
1,2,3-Trichlorobenzene	U	<2.00	<25.0	<2.00	µg/L	5	2.00	5	0.4
1,2,4-Trichlorobenzene	U	<1.14	<25.0	<1.14	µg/L	5	1.14	5	0.227
Naphthalene	U	<3.36	<25.0	<3.36	µg/L	5	3.36	5	0.672
Hexachlorobutadiene	U	<0.990	<25.0	2.36	µg/L	5	0.990	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		251	µg/L	5	250	100	70 - 130
Toluene-d8		257	µg/L	5	250	103	70 - 130
4-Bromofluorobenzene (4-BFB)		256	µg/L	5	250	102	70 - 130

Sample: 209317 - HLSF-0154-TB-0909-002

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	63556	Date Analyzed:	2009-09-14	Analyzed By:	JG
Prep Batch:	54254	Sample Preparation:	2009-09-14	Prepared By:	JG

continued ...

[24] Concentration biased low.

sample 209317 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromochloromethane	U	<0.169	<1.00	<0.169	µg/L	1	0.169	1	0.169
Dichlorodifluoromethane	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Chloromethane (methyl chloride)	U	<0.164	<1.00	<0.164	µg/L	1	0.164	1	0.164
Vinyl Chloride	U	<0.110	<1.00	<0.110	µg/L	1	0.110	1	0.11
Bromomethane (methyl bromide)	U	<0.540	<5.00	<0.540	µg/L	1	0.540	5	0.54
Chloroethane	U	<0.232	<1.00	<0.232	µg/L	1	0.232	1	0.232
Trichlorofluoromethane	U	<0.149	<1.00	<0.149	µg/L	1	0.149	1	0.149
Acetone	[25] JB	**2.17**	<10.0	2.05	µg/L	1	0.893	10	0.893
Iodomethane (methyl iodide)	U	<0.104	<5.00	<0.104	µg/L	1	0.104	5	0.104
Carbon Disulfide	U	<0.120	<1.00	<0.120	µg/L	1	0.120	1	0.12
Acrylonitrile	U	<0.189	<1.00	<0.189	µg/L	1	0.189	1	0.189
2-Butanone (MEK)	[26] JB	**0.566**	<5.00	0.596	µg/L	1	0.218	5	0.218
4-Methyl-2-pentanone (MIBK)	U	<0.554	<5.00	<0.554	µg/L	1	0.554	5	0.554
2-Hexanone	U	<0.863	<5.00	<0.863	µg/L	1	0.863	5	0.863
trans 1,4-Dichloro-2-butene	U	<0.607	<10.0	<0.607	µg/L	1	0.607	10	0.607
1,1-Dichloroethene	U	<0.102	<1.00	<0.102	µg/L	1	0.102	1	0.102
Methylene chloride	U	<0.270	<5.00	<0.270	µg/L	1	0.270	5	0.27
MTBE	U	<0.122	<1.00	<0.122	µg/L	1	0.122	1	0.122
trans-1,2-Dichloroethene	U	<0.168	<1.00	<0.168	µg/L	1	0.168	1	0.168
1,1-Dichloroethane	U	<0.107	<1.00	<0.107	µg/L	1	0.107	1	0.107
cis-1,2-Dichloroethene	U	<0.151	<1.00	<0.151	µg/L	1	0.151	1	0.151
2,2-Dichloropropane	U	<0.167	<1.00	<0.167	µg/L	1	0.167	1	0.167
1,2-Dichloroethane (EDC)	U	<0.0890	<1.00	<0.0890	µg/L	1	0.0890	1	0.089
Chloroform	U	<0.121	<1.00	<0.121	µg/L	1	0.121	1	0.121
1,1,1-Trichloroethane	U	<0.170	<1.00	<0.170	µg/L	1	0.170	1	0.17
1,1-Dichloropropene	U	<0.156	<1.00	<0.156	µg/L	1	0.156	1	0.156
Benzene	U	<0.113	<1.00	<0.113	µg/L	1	0.113	1	0.113
Carbon Tetrachloride	U	<0.0930	<1.00	<0.0930	µg/L	1	0.0930	1	0.093
1,2-Dichloropropane	U	<0.129	<1.00	<0.129	µg/L	1	0.129	1	0.129
Trichloroethene (TCE)	U J	<0.160	<1.00	<0.160	µg/L	1	0.160	1	0.16
Dibromomethane (methylene bromide)	U	<0.137	<1.00	<0.137	µg/L	1	0.137	1	0.137
Bromodichloromethane	U	<0.107	<1.00	<0.107	µg/L	1	0.107	1	0.107
2-Chloroethyl vinyl ether	U	<0.257	<5.00	<0.257	µg/L	1	0.257	5	0.257
cis-1,3-Dichloropropene	U	<0.109	<1.00	<0.109	µg/L	1	0.109	1	0.109
trans-1,3-Dichloropropene	U	<0.181	<1.00	<0.181	µg/L	1	0.181	1	0.181
Toluene	U	<0.117	<1.00	<0.117	µg/L	1	0.117	1	0.117
1,1,2-Trichloroethane	U	<0.143	<1.00	<0.143	µg/L	1	0.143	1	0.143
1,3-Dichloropropane	U	<0.191	<1.00	<0.191	µg/L	1	0.191	1	0.191
Dibromochloromethane	U	<0.118	<1.00	<0.118	µg/L	1	0.118	1	0.118

continued ...

[25] Concentration biased low.
[26] Concentration biased low.

sample 209317 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
1,2-Dibromoethane (EDB)	U	<0.131	<1.00	<0.131	µg/L	1	0.131	1	0.131
Tetrachloroethene (PCE)	[27] U	<0.353	<1.00	<0.353	µg/L	1	0.353	1	0.353
Chlorobenzene	U	<0.135	<1.00	<0.135	µg/L	1	0.135	1	0.135
1,1,1,2-Tetrachloroethane	U	<0.263	<1.00	<0.263	µg/L	1	0.263	1	0.263
Ethylbenzene	U	<0.174	<1.00	<0.174	µg/L	1	0.174	1	0.174
m,p-Xylene	U	<0.220	<1.00	<0.220	µg/L	1	0.220	1	0.22
Bromoform	U	<0.385	<1.00	<0.385	µg/L	1	0.385	1	0.385
Styrene	U	<0.413	<1.00	<0.413	µg/L	1	0.413	1	0.413
o-Xylene	U	<0.115	<1.00	<0.115	µg/L	1	0.115	1	0.115
1,1,2,2-Tetrachloroethane	U	<0.766	<1.00	<0.766	µg/L	1	0.766	1	0.766
2-Chlorotoluene	U	<0.132	<1.00	<0.132	µg/L	1	0.132	1	0.132
1,2,3-Trichloropropane	U	<0.599	<1.00	<0.599	µg/L	1	0.599	1	0.599
Isopropylbenzene	U	<0.145	<1.00	<0.145	µg/L	1	0.145	1	0.145
Bromobenzene	U	<0.266	<1.00	<0.266	µg/L	1	0.266	1	0.266
n-Propylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,3,5-Trimethylbenzene	U	<0.124	<1.00	<0.124	µg/L	1	0.124	1	0.124
tert-Butylbenzene	U	<0.136	<1.00	<0.136	µg/L	1	0.136	1	0.136
1,2,4-Trimethylbenzene	[28] J	**0.269**	<1.00	<0.114	µg/L	1	0.114	1	0.114
1,4-Dichlorobenzene (para)	U	<0.230	<1.00	<0.230	µg/L	1	0.230	1	0.23
sec-Butylbenzene	U	<0.452	<1.00	<0.452	µg/L	1	0.452	1	0.452
1,3-Dichlorobenzene (meta)	U	<0.214	<1.00	<0.214	µg/L	1	0.214	1	0.214
p-Isopropyltoluene	U	<0.126	<1.00	<0.126	µg/L	1	0.126	1	0.126
4-Chlorotoluene	U	<0.161	<1.00	<0.161	µg/L	1	0.161	1	0.161
1,2-Dichlorobenzene (ortho)	U	<0.357	<1.00	<0.357	µg/L	1	0.357	1	0.357
n-Butylbenzene	U	<0.125	<1.00	0.163	µg/L	1	0.125	1	0.125
1,2-Dibromo-3-chloropropane	U	<0.977	<5.00	<0.977	µg/L	1	0.977	5	0.977
1,2,3-Trichlorobenzene	U	<0.400	<5.00	<0.400	µg/L	1	0.400	5	0.4
1,2,4-Trichlorobenzene	U	<0.227	<5.00	<0.227	µg/L	1	0.227	5	0.227
Naphthalene	U	<0.672	<5.00	<0.672	µg/L	1	0.672	5	0.672
Hexachlorobutadiene	U	<0.198	<5.00	0.473	µg/L	1	0.198	5	0.198

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		48.6	µg/L	1	50.0	97	70 - 130
Toluene-d8		50.1	µg/L	1	50.0	100	70 - 130
4-Bromofluorobenzene (4-BFB)		49.8	µg/L	1	50.0	100	70 - 130

Method Blank (1)

QC Batch: 63556 Date Analyzed: 2009-09-14 Analyzed By: JG
Prep Batch: 54254 QC Preparation: 2009-09-14 Prepared By: JG

[27] Concentration biased low.
[28] Concentration biased low.

zia engineering & environmental consultants, llc 9090808

0002

755 S. Telshor Blvd. Ste. F-201
Las Cruces, NM 88011
575-532-1526 o
575-532-1587 f

CHAIN OF CUSTODY RECORD

PROJECT NO:
PROJECT NAME: HELSTF Semi-Annual Ground Water
SAMPLER'S SIGNATURE: Brady T. Davis

DATE	TIME	SAMPLE ID	MATRIX	LAB NO	NO. OF CONTAINERS	VOCs	REMARKS
9-1-09	1335	HLSF-0154-DRW-016-0909	Water	209311	3	X	
9-2-09	1115	HLSF-0154-HCF-001-0909	Water	312	3	X	
9-1-09	1033	HLSF-0154-DRW-005-0909	Water	313	3	X	
9-1-09	1030	HLSF-0143-HMW-013-0909	Water	314	3	X	
9-1-09	1010	HLSF-0143-HMW-036-0909	Water	315	3	X	
9-1-09	1335	HLSF-0154-DRW-016-0909-MS/MSD	Water	209311	3	X	Extra sample for MS/MSD
9-2-09	1338	HLSF-0154-DRW-004-0909	Water	316	3	X	
9-2-09	1338	HLSF-0154-~~DRW~~TB-09-0002	Water	317	2	X	trip Blank

PROJECT INFORMATION
PROJECT MANAGER: Brad Davis
SHIPPING ID NO: 799909265084
VIA: Fed EX ~~Lab Courier~~

SAMPLES RECEIVED
TOTAL NO. OF CONTAINERS
CHAIN OF CUSTODY SEALS
GOOD CONDITION/CHILLED
CONFORMS TO RECORD: MA

1. RELINQUISHED BY: (SIGNATURE) Brady T. Davis
(PRINTED NAME) Bradley T. Davis 9-4-09 1300
RECEIVED BY: (SIGNATURE)
(TIME/ DATE)

2. RELINQUISHED BY: (SIGNATURE)
(PRINTED NAME)
RECEIVED BY: (SIGNATURE)
(TIME/ DATE)

3. RECEIVED BY LAB: (SIGNATURE) Emily Reeve
(PRINTED NAME) Emily Reeve
(COMPANY) Trace Analysis
(TIME/ DATE) 9-5-09 5.9° 10:30

SPECIAL INSTRUCTIONS/ COMMENTS:
PLEASE SEE ATTACHED ANALYTE LIST FOR DETAILS

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY